

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference  PP/1-22778/CGM 522	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No.  PCT/EP 03/12204	International filing date (day/month/year)  03/11/2003	(Earliest) Priority Date (day/month/year)  08/11/2002
Applicant  POLYMERS AUSTRALIA PTY. LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :
  - contained in the international application in written form.
  - filed together with the international application in computer readable form.
  - furnished subsequently to this Authority in written form.
  - furnished subsequently to this Authority in computer readable form.
  - the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2.  Certain claims were found unsearchable (See Box I).

3.  Unity of invention is lacking (see Box II).

### 4. With regard to the title,

- the text is approved as submitted by the applicant.
- the text has been established by this Authority to read as follows:

### 5. With regard to the abstract,

- the text is approved as submitted by the applicant.
- the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

### 6. The figure of the drawings to be published with the abstract is Figure No.

- as suggested by the applicant.
- because the applicant failed to suggest a figure.
- because this figure better characterizes the invention.

 None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 03/12204

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C01B33/44 C08J3/22 C08K7/00 C08K9/04 C08L23/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C01B C08J C08K C08L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 534 799 A (AGUIRRE JUAN E) 13 August 1985 (1985-08-13)  abstract column 2, line 5-60 column 5, line 48-61 column 6, line 54-62 column 7, line 49-57 * examples *  WO 99 07790 A (TNO; FISCHER HARTMUT RUDOLF (NL)) 18 February 1999 (1999-02-18) cited in the application abstract page 3, line 12-36 page 5, line 11-15 page 8, line 16-26 example 1  ---	1-6, 9, 11, 13, 14, 16-19
X	---	1-5, 9-19

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

30 January 2004

Date of mailing of the international search report

05/02/2004

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 03/12204

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 705 880 A (SUMITOMO CHEMICAL CO) 10 April 1996 (1996-04-10)  page 2, line 33 -page 3, line 18 page 7, line 51-59 page 8, line 1 - line 22 table 6 * examples * ---	1-4, 7-14, 16-19
X	WO 98 01503 A (CABOT CORP) 15 January 1998 (1998-01-15)  page 3, line 38 -page 4, line 3 page 5, line 17 - line 20 tables 1,2,4,5,7 examples 1-3 ---	1,5,7-9, 11,13, 14,16-18
A	LIAO B ET AL: "Polymer-layered silicate nanocomposites. 1. A study of poly(ethylene oxide)/Na-montmorillonite nanocomposites as polyelectrolytes and polyethylene-block-poly(ethylene glycol) copolymer/Na-montmorillo nite nanocomposites as fillers for reinforcement of polyethylene" POLYMER, ELSEVIER SCIENCE PUBLISHERS B.V, GB, vol. 42, no. 25, December 2001 (2001-12), pages 10007-10011, XP004318131 ISSN: 0032-3861 cited in the application the whole document ---	1-19
A	VAIA R A ET AL: "SYNTHESIS AND PROPERTIES OF TWO-DIMENSIONAL NANOSTRUCTURES BY DIRECT INTERCALATION OF POLYMER MELTS IN LAYERED SILICATES" CHEMISTRY OF MATERIALS, AMERICAN CHEMICAL SOCIETY, WASHINGTON, US, vol. 120, no. 2, 1993, pages 1694-1696, XP002062287 ISSN: 0897-4756 the whole document ---	1-19

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/EP 03/12204

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 4534799	A	13-08-1985	NONE		
WO 9907790	A	18-02-1999	NL	1006743 C2	09-02-1999
			AT	232550 T	15-02-2003
			AU	745227 B2	14-03-2002
			AU	8752698 A	01-03-1999
			BR	9811128 A	18-07-2000
			DE	69811370 D1	20-03-2003
			DE	69811370 T2	18-12-2003
			DK	1002017 T3	10-06-2003
			EP	1002017 A1	24-05-2000
			ES	2192782 T3	16-10-2003
			JP	2001512773 T	28-08-2001
			WO	9907790 A1	18-02-1999
			PT	1002017 T	30-06-2003
			US	2003060556 A1	27-03-2003
			US	6579927 B1	17-06-2003
EP 0705880	A	10-04-1996	DE	69507563 D1	11-03-1999
			DE	69507563 T2	07-10-1999
			EP	0705880 A1	10-04-1996
			US	5851682 A	22-12-1998
			CA	2161413 A1	31-08-1995
			CN	1123554 A ,B	29-05-1996
			ES	2129809 T3	16-06-1999
			JP	7286052 A	31-10-1995
			WO	9523186 A1	31-08-1995
			JP	3396564 B2	14-04-2003
			JP	8073667 A	19-03-1996
WO 9801503	A	15-01-1998	AU	719766 B2	18-05-2000
			AU	3730497 A	02-02-1998
			BR	9710260 A	11-12-2001
			CA	2260252 A1	15-01-1998
			CN	1228795 A	15-09-1999
			DE	69706854 D1	25-10-2001
			DE	69706854 T2	13-06-2002
			EP	0909289 A1	21-04-1999
			HU	9904332 A2	28-05-2000
			ID	18852 A	14-05-1998
			JP	2000515180 T	14-11-2000
			NO	990087 A	08-03-1999
			PL	331094 A1	21-06-1999
			SK	2999 A3	18-01-2000
			TR	9900495 T2	21-06-1999
			TW	492990 B	01-07-2002
			WO	9801503 A1	15-01-1998
			US	6268407 B1	31-07-2001